WHAT IS CLAIMED IS:

1. A current supply system, comprising:

a plurality of current supply modules, wherein each current supply module includes an input terminal and an output terminal and each current supply module has a maximum output power, and wherein multiple current supply modules are electrically combined to form a current supply unit having a maximum output power that is greater than the maximum output power of the individual current supply modules;

a control unit connected to the current supply unit; and

a data connection for connecting the control unit to all the current supply modules of the current supply unit.

2. The current supply system of claim 1, wherein the current supply system is a plasma plant current supply system.

3. The current supply system of claim 1, wherein the current supply modules are power converters.

4. The current supply system of claim 1, wherein the maximum output power of all the current supply modules is substantially the same.

5. The current supply system of claim 1, wherein a plurality of first current supply systems are electrically combined to form a first current supply unit having a first maximum power output and a plurality of second current supply systems are electrically combined to form a second current supply unit having a second maximum power output different from the first maximum power output.

6. The current supply system of claim 1, wherein each current supply module includes a receptacle for receiving the control unit, and wherein exactly one current supply module of each current supply unit receives the control unit.

7. The current supply system of claim 6, wherein the current supply module that receives the control unit is adapted for connection to an external controller.

8. The current supply system of claim 7, wherein the external controller is a computer.

9. The current supply system of claim 6, wherein the control unit is adapted for connection to an external controller.

10. The current supply system of claim 9, wherein the external controller is a computer.

11. The current supply system of claim 1, wherein each current supply module includes a measuring device for measuring a current supply module output quantity.

12. The current supply system of claim 11, wherein the output quantity is selected from the group consisting of a voltage, a current, and a power.

13. The current supply system of claim 11, wherein each measuring device includes a signal matching circuit for converting a voltage, a voltage/current converter for converting the output voltage of the signal matching circuit into a current, and an apparent ohmic resistance for generating a voltage drop.

14. The current supply system of claim 11, wherein the measuring signals of the current supply modules are supplied to the current supply unit of the control unit in parallel via the data connection.

15. The current supply system of claim 1, wherein the current supply system is disposed in a switching cabinet.

16. The current supply system of claim 1, wherein the current supply modules are current sources.

17. The current supply system of claim 1, further comprising an interlock circuit for the current supply unit, wherein the interlock circuit is adapted for connection to the current supply modules of the current supply unit.

18. The current supply system of claim 1, further comprising:

a common input electrical conductor for electrically connecting the current supply modules of the current supply unit at the output side; and

a common output electrical connector that electrically connects the output terminals of two neighboring current supply modules.

19. The current supply system of claim 18, wherein two or more current supply modules of the current supply unit are electrically connected at the input side.

20. The current supply system of claim 19, wherein all the current supply modules are electrically connected at the input side.

21. The current supply system of claim 18, wherein the common input electrical conductor is identical to the common output electrical conductor.

22. The current supply system of claim 18, wherein the input terminal includes a plurality of connectors that correspond to a number of phases of a power line connection, and the output terminal includes two connectors, which are disposed in different conductor planes, and through which the conductors may be connected to corresponding connectors of neighboring current supply modules.

23. The current supply system of claim 18, further comprising insulative distribution elements for connecting the conductors with the terminals, wherein the distribution elements each comprise receptacles for receiving ends of the conductors.

24. A plasma plant current supply system, comprising:

a plurality of substantially similar power converter modules, wherein each power converter module includes an input terminal and an output terminal, and each power converter module has a maximum output power that is substantially similar to the maximum output power of other power converter modules, and wherein multiple power converter modules are combined to form a current supply unit having a maximum output

power that is greater than the maximum output power of the individual power converter modules;

a control unit connected to the current supply unit;

a data connection for connecting the control unit to all the power converter modules of the current supply unit;

a common input electrical conductor for electrically connecting the current power converter modules of the current supply unit at the output side; and

a common output electrical connector that electrically connects the output terminals of two neighboring power converter modules.

25. The current supply system of claim 24, wherein a plurality of first current supply systems are electrically combined to form a first current supply unit having a first maximum power output and a plurality of second current supply systems are electrically combined to form a second current supply unit having a second maximum power output different from the first maximum power output.

26. The current supply system of claim 24, wherein each current supply module includes a receptacle for receiving the control unit, and wherein exactly one current supply module of each current supply unit receives the control unit.

27. The current supply system of claim 26, wherein the current supply module that receives the control unit is adapted for connection to an external controller.

28. The current supply system of claim 27, wherein the external controller is a computer.

29. The current supply system of claim 26, wherein the control unit is adapted for connection to an external controller.

30. The current supply system of claim 29, wherein the external controller is a computer.

31. The current supply system of claim 24, wherein each current supply module includes a measuring device for measuring a current supply module output quantity.

32. The current supply system of claim 31, wherein the output quantity is selected from the group consisting of a voltage, a current, and a power.

33. The current supply system of claim 31, wherein each measuring device includes a signal matching circuit for converting a voltage, a voltage/current converter for converting the output voltage of the signal matching circuit into a current, and an apparent ohmic resistance for generating a voltage drop.

34. The current supply system of claim 31, wherein the measuring signals of the current supply modules are supplied to the current supply unit of the control unit in parallel via the data connection.

35. The current supply system of claim 24, wherein the current supply system is disposed in a switching cabinet.

36. The current supply system of claim 24, further comprising an interlock circuit for the current supply unit, wherein the interlock circuit is adapted for connection to the current supply modules of the current supply unit.

37. The current supply system of claim 24, wherein two or more current supply modules of the current supply unit are electrically connected at the input side.

38. The current supply system of claim 37, wherein all the current supply modules are electrically connected at the input side.

39. The current supply system of claim 24, wherein the common input electrical conductor is identical to the common output electrical conductor.

40. The current supply system of claim 24, wherein the input terminal includes a plurality of connectors that correspond to a number of phases of a power line connection, and the output terminal includes two connectors, which are disposed in different conductor

planes, and through which the conductors may be connected to corresponding connectors of neighboring current supply modules.

41. The current supply system of claim 24, further comprising insulative distribution elements for connecting the conductors with the terminals, wherein the distribution elements each comprise receptacles for receiving ends of the conductors.

42. A method of providing an electrical current, the method comprising:

providing a plurality of current supply modules, wherein each current supply module includes an input terminal and an output terminal and each current supply module has a maximum output power;

establishing an electrical connection between multiple current supply modules to form a current supply unit having a maximum output power that is greater than the maximum output power of the individual current supply modules;

controlling the current supply unit with a control unit; and

controlling the current supplied by each current supply module through a data connection that connects the control unit to all the current supply modules of the current supply unit.

43. The method of claim 42, further comprising:

establishing an electrical connection between multiple first current supply modules to form a first current supply unit having a first maximum power output; and

establishing an electrical connection between multiple second current supply modules to form a second current supply unit having a second maximum power output different from the first maximum power output.